Fekhar Moutie

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Professional Summary

Automation and electronics engineer specializing in PLC programming, industrial fault diagnosis, and component-level repair of control boards and automation systems. Hands-on field technician with experience in commissioning, troubleshooting, and systems integration across industrial environments.

Technical Skills

PLC & Automation:	TIA Portal, SIMATIC, Zelio, CODESYS, Omron Sysmac Studio, IEC 61131-3 (Ladder, FBD, SCL), PID tuning, VFD configuration
HMI / SCADA:	WinCC Advanced/Unified, PLCSIM, alarm management, operator panel design
Industrial Communication:	PROFINET, EtherNet/IP, Modbus TCP/IP, OPC UA, MQTT, Node-RED (IIoT)
Electrical Design:	AutoCAD Electrical, EPLAN, panel design, electrical schematics
Electronics & Field Repair:	PCB diagnosis, component-level repair, oscilloscope, multimeter, schematic reading
Software & Tools:	Python, C#, TypeScript, LabVIEW, SQL Server, EasyEDA, Proteus, Multisim
Core Competencies:	Control theory, process automation, system integration, fault diagnosis, root cause analysis, HSE safe-work practices

Experience

Independent Field Technician – Automation & Electronics Repair | *Self-Employed* *Jan 2020 – Present*

- Travel on-site to diagnose and repair industrial machine control boards, CNC machines, VFDs, and automation panels at ***PCB component level***, resolving faults from power-supply failures to logic and driver-stage defects.
- Program, configure, and commission PLC- and microcontroller-based control systems; perform startup, parameter tuning, and in-field fault recovery directly on client equipment.
- Read and interpret electrical and electronic schematics; use oscilloscopes, multimeters, and bench tools to isolate faults and restore systems with ***minimal client downtime***.

Instrumentation Engineering Intern | *Sonatrach (Oil & Gas) – Illizi* *Feb 2025 – Mar 2025*

- Calibrated and functionally tested field instruments (pressure, temperature, flow transmitters) in a live hydrocarbon production plant; applied HSE safe-work practices in classified hazardous areas.
- Observed DCS/PCS7 supervision and control of GE gas turbines.

Automation Engineering Intern | *SEMA – Société d'Exploitation du Métro d'Alger* *Jan 2025 – Feb 2025*

- Programmed Siemens ET200 PLCs and configured Schneider ATV VFDs for metro traction and auxiliary systems.
- Developed HMI supervision screens in TIA Portal / WinCC; supported panel testing and pre-commissioning activities.

Automation Engineering Intern | *Groupe Saidal SPA (Pharmaceutical Manufacturing)* *Mar 2023 – Apr 2023*

- Applied PLC ladder and relay logic programming in a pharmaceutical production line; gained hands-on experience with industrial control panels and relay systems.

Education

Yahia Fares University of Medea — **Master's in Automation & Systems** — *2023 – 2025*

Yahia Fares University of Medea — **Bachelor's in Electronic Engineering** — *2020 – 2023*

Projects

Fire & Gas Safety System – GE MS5002C Gas Turbine | *S7-1500, TIA Portal, WinCC, PLCSIM* *2025*

- Designed a ***redundant Safety Instrumented System (SIS)*** using dual Siemens S7-1500 fail-safe PLCs for a Sonatrach gas turbine (Master's thesis); IEC 61511-oriented architecture with alarm management, zone monitoring, and manual overrides validated via PLCSIM.

IIoT Equipment Monitor | *Node-RED, MQTT, OPC UA, InfluxDB, Grafana* *2024*

- Built a full IIoT monitoring pipeline: OPC UA reads live PLC tags → MQTT broker → Node-RED → InfluxDB time-series store → Grafana KPI dashboard; deployed with configurable threshold alerts for ***real-time fault detection***.

LED Dot Matrix Display – PIC16F84A | *PIC Assembly, Shift Registers, Time-Division Multiplexing* *2023*

- Developed an optimized driver and control system for LED dot matrix displays using a modular panel architecture, improving brightness, refresh rate, and synchronization.

Discrete-Component Pump Controller | *Transistors, Relays, 555 Timer, Schmitt Trigger, PCB Design* *2019*

- Designed and built a fully discrete pump control circuit from schematic to physical PCB – level sensing, relay-switched load control, and timed delay logic – with no microcontroller.

Certifications & Languages

Fundamentals of Deep Learning | *NVIDIA* *2024*

QoS and IPv6 Fundamentals | *ICT Towers* *2023*

Languages: Arabic (Native) | English (Professional) | French (Intermediate)